

REMARKS

This Amendment is responsive to the Office Action mailed June 10, 2009. With this amendment claims 1, 3, 5-7, 11, 13-15, 17, 18, and 19 have been amended. Claims 1-3 and 5-20 are pending. Claims 5, 6, 8-10, and 16 are withdrawn.

Support for the amendment can be found throughout the specification and claims as filed, including paragraphs [0049] - [0056] of the published application, as well as Figures 6-11. No new matter has been added.

Information Disclosure Statement

Applicants note with appreciation that the Information Disclosure Statements filed June 12, 2006; September 7, 2006, and February 21, 2007 have been considered by the Examiner.

Specification/Sequence Compliance

The Office Action objects to the disclosure because it allegedly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. In particular, the Office asserts that nucleotide sequences are set forth in Figures 2 and 13 without corresponding SEQ ID NO identifiers.

In response, Applicants respectfully direct the Examiner's attention to the Preliminary Amendment submitted February 21, 2007 in which Applicants submitted a revised Sequence Listing and an Amendment to the specification to insert the required SEQ ID NO identifiers associated with the various listed sequences. The Examiner is invited to contact the undersigned should such Amendment not be located or, should the Examiner, after consideration of the

Amendment, find that the specification does not comply with the Requirements for Patent Applications Containing Nucleotide and/or Amino Acid Sequence Disclosures.

Claim Objections

The Office Action objects to claims 4 and 17 for allegedly awkward wording: ‘at its either or both ends.’

The Office Action also objects to claim 7 for recitation of “incorporated therein.”

Applicants submit that the instant Amendment is responsive to the claim objections and respectfully request withdrawal of the same.

Claim Rejections – 35 U.S.C. § 112, Second Paragraph

The Office Action rejects claims 3, 4, 11-15, and 17-19 under 35 U.S.C. § 112, second paragraph, as allegedly indefinite. In particular, the Office Action rejects claims 3 and 13 for recitation of “pretreated for target sequence binding.” The Office Action also rejects claims 11, 12, and 17-19 as allegedly indefinite because the claims depend from withdrawn claims 4, 5, 8, and 9. Claims 4 and 14 are also rejected as allegedly indefinite for recitation of “which comprises a target sequence bound thereto at its either or both ends.”

In response, and without acquiescing to the propriety of the rejections under 35 U.S.C. § 112, second paragraph, Applicants submit that the instant Amendment is responsive to the present rejections. In particular, Applicants submit that claims 3 and 13 as amended are even clearer and more definite with respect to the metes and bounds of the term “pretreated.” Applicants further submit that claims 11, 12, and 17-19 no longer depend from withdrawn method claims. Applicants further submit that claim 4 has been canceled, rendering the rejection

of claim 4 under 35 U.S.C. § 112, second paragraph, moot. Additionally, Applicants submit that claim 14 has been amended to render the claim even clearer and more definite with respect to the recitation of “which comprises a target sequence bound thereto at its either or both ends.”

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. § 112, second paragraph.

Claim Rejections – 35 U.S.C. § 102(b)

The Office Action rejects claims 1 and 2 under 35 U.S.C. § 102(b) as allegedly anticipated by Sui et al. (*Proc. Natl. Acad. Sci.* **99**:5515-5520, 2002; hereinafter SUI). In particular, the Office asserts that SUI discloses a U6 promoter-driven expression cassette for cloning and expressing hairpin RNAs (Figure 1, page 3). Furthermore, for purposes of the instant rejection, the Office has interpreted claim 1 to encompass a *target sequence* which consists of an adaptor sequence, a spacer sequence, and an inverted sequence of the adaptor sequence.

In response, Applicants submit that SUI does not anticipate the claimed subject matter. Applicants further submit that the claim interpretation adopted by the Office for purposes of the instant rejection is rendered moot by the present Amendment. In particular, Applicants note that SUI does not disclose “[a] cassette construct for preparing an inverted repeat sequence of a target sequence consisting of:

an adaptor sequence,

a spacer sequence,

an inverted sequence of the adaptor sequence, and

a target sequence bound to the adaptor sequence, the inverted sequence of the adaptor sequence, or both, wherein the target sequence is a target sequence in RNA interference.”

Indeed, Applicants submit that SUI discloses the construction of a DNA plasmid using conventional techniques which are distinguished by the instant specification. For example, SUI discloses a plasmid containing a DNA template for the synthesis of siRNA under the control of the U6 promoter, which was constructed with the use of *Apal*, *XhoI* and *EcoRI* restriction enzymes (see Materials and Methods, page 5515, 2nd column, first full paragraph). In contrast, the instant specification distinguishes such conventional techniques which involve target sequence insertion carried out via cleavage of DNA with restriction enzymes and via ligase-mediated binding (see specification at, e.g., page 2, last paragraph through page 3, first paragraph).

Based at least on the foregoing, Applicants submit that the claimed subject is not anticipated by SUI. Accordingly, Applicants respectfully request reconsideration of the instant rejection and withdrawal of the same.

The Office Action also rejects claims 1, 4, 7, 14, and 20 under 35 U.S.C. § 102(b) as allegedly anticipated by Brummell et al. (*The Plant Journal* 33:793-800, Feb. 2003; hereinafter BRUMMELL). In particular, the Office Action states that BRUMMELL teaches an inverted repeat expression construction (Figure 1, page 794), comprising an FMV promoter, an hsp70 leader sequence, a spacer sequence flanked by inverted repeats of the 3'-untranslated region of the *nos* gene, and at one end, the PG transgene. For purposes of the instant rejection, the Office has cited to BRUMMELL based upon an interpretation of claim 1 in which the *cassette construct*

consists of an adaptor sequence, a spacer sequence, and an inverted sequence of the adaptor sequence.

In response, Applicants submit that BRUMMELL does not anticipate the claimed subject matter. In particular, Applicants note that BRUMMELL does not disclose “[a] cassette construct for preparing an inverted repeat sequence of a target sequence consisting of:

an adaptor sequence,

a spacer sequence,

an inverted sequence of the adaptor sequence, and

a target sequence bound to the adaptor sequence, the inverted sequence of the adaptor sequence, or both, wherein the target sequence is a target sequence in RNA interference.”

Moreover, Applicants submit that the method of BRUMMELL does not require the inverted repeat DNA of the target gene in the construct (See Abstract). Indeed, BRUMMELL discloses a method for the easy generation of inverted repeat constructs for the silencing of genes of *unknown* sequences (See Abstract, emphasis added). Thus, in contrast to the claimed subject matter, the construct of BRUMMELL comprises an inverted repeat sequence of the 3'-untranslated region of the *nos* gene, which gene is a heterologous gene, and does not comprise “a target sequence bound to the adaptor sequence, the inverted sequence of the adaptor sequence, or both, wherein the target sequence is a target sequence in RNA interference.”

Based at least on the foregoing, Applicants submit that the claimed subject is not anticipated by BRUMMELL. Accordingly, Applicants respectfully request reconsideration of the instant rejection and withdrawal of the same.

CONCLUSION

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections of record, and allow all the pending claims.

No additional fee is believed due at this time. If, however, any additional fee is necessary to ensure consideration of the submitted materials, the Patent and Trademark Office is hereby authorized to charge the same to Deposit Account No. 19-0089.

Any comments or questions concerning this application can be directed to the undersigned at the telephone number given below.

Respectfully Submitted,
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